

國立臺灣大學九十六學年度轉學生入學考試試題

科目：普通植物學

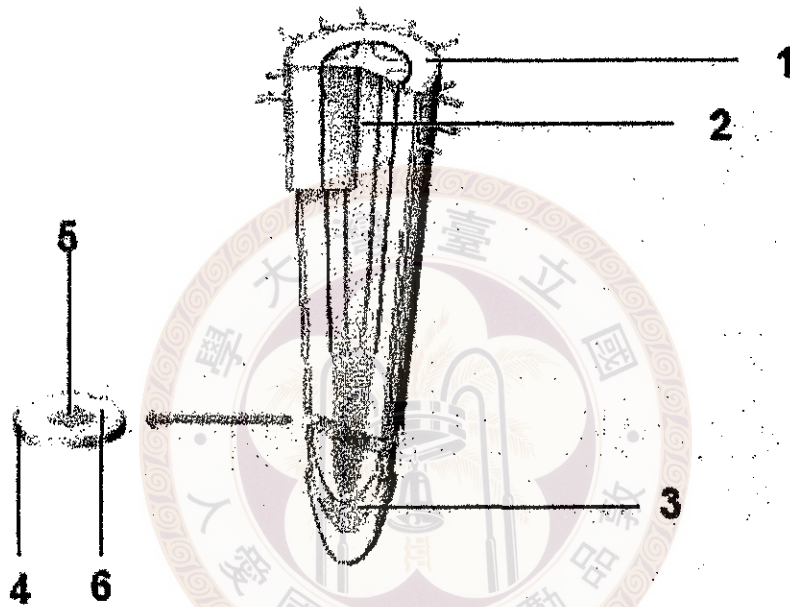
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共 3 頁之第 1 頁

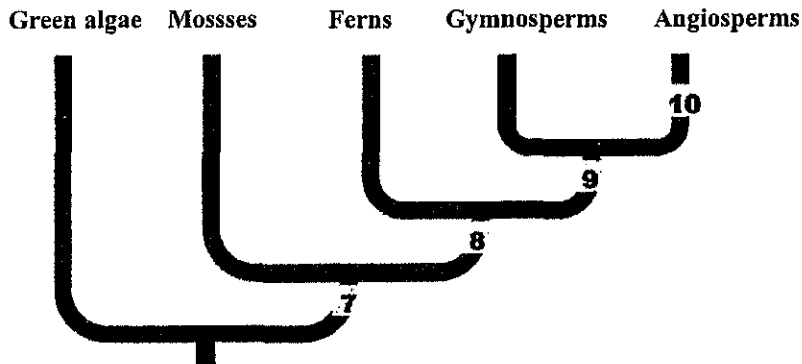
※ 注意：請於試卷上依序作答，並應註明作答之大題及小題題號。

I. 請按照順序填入相對名詞。共 44 分 (No.1-19：每個名詞 2 分；No. 20~25：每格 1 分。)

A. According to the following figure, name the structures (1, 2, 3) and the three types of tissue (4, 5, 6) that constitute (組成) a root. (in English)

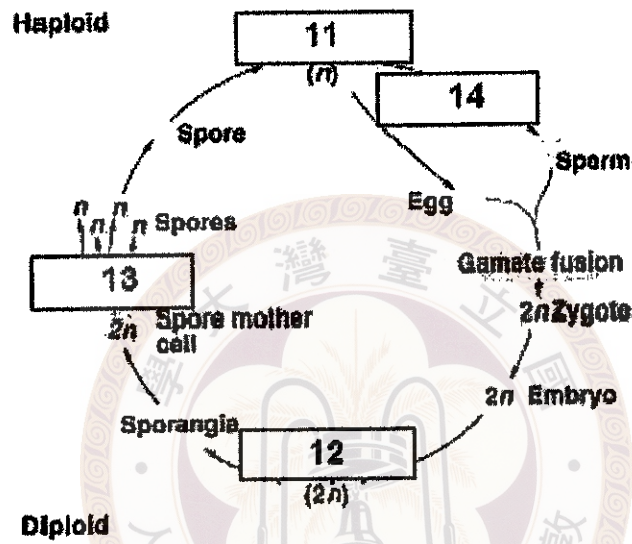


B. Name the derived characters (7, 8, 9,10) that distinguish the five groups of organisms. For example, what is the character (7) that distinguishes (區別) green algae from mosses and what is the character (8) that distinguishes mosses from ferns. (in English)

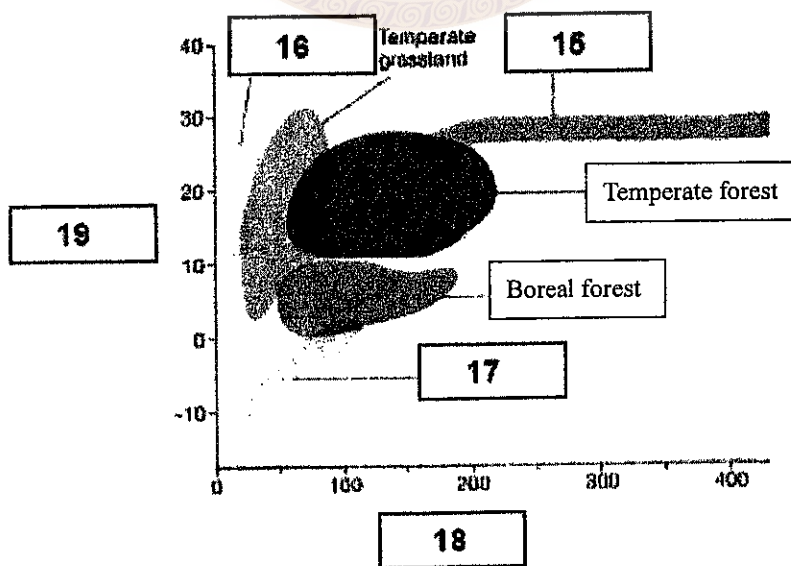


接背面

C. Following figure is a generalized plant life cycle. Name the terms for the haploid (11) and diploid (12) generations and the processes (13 and 14) that produce haploid spores and gametes. (in English)



D. Following figure presents some major terrestrial biomes on earth. Name the three major biomes (15, 16, 17) plotted on the figure and the major factors (18, 19) that determine the distribution of these biomes.



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E. To compare some characteristics of photosynthesis in C₄, C₃ and CAM plants:

	C ₃ plants	C ₄ plants	CAM plants
First enzyme for CO ₂ fixation.	Rubisco	(20)	(21)
First product of Primary CO ₂ fixation.	(22)	Oxaloacetate (OAA)	(23)
Water-use efficiency (high/intermediate/low)	(24)	intermediate	(25)

II. 寫出與下列現象或功能最相關的植物荷爾蒙符號 (A, B, C, D, E)。共 10 分(每小題 1 分)

A. Auxins; B. Gibberellins; C. Cytokinins; D. Ethylene; E. Abscisic acid

1. to maintain bud dormancy
2. to act as commercial rooting agent.
3. to promote chloroplast development.
4. to cause the leaf epinasty.
5. to stimulate stem elongation and bolting of spinach.
6. to stimulate the growth of grape fruit and elongation of pedicle
7. to maintain the apical dominance of shoots.
8. to promote sink strength of tissues
9. to cause wall acidification and acid growth.
10. to cause stomatal closure.

III. Give a brief description for each following term. 共 34 分 (依題號順序答題; 每題 2 分)

- | | |
|-------------------------|------------------------------|
| 1. Plant Tissue Culture | 2. Arabidopsis thaliana |
| 3. Pericarp | 4. Agrobacterium tumefaciens |
| 5. Root pressure | 6. Cryptochrome |
| 7. Axillary bud | 8. Phytoremediation |
| 9. Circadian rhythm | 10. Self-incompatibility |
| 11. Photorespiration | 12. Perennial plant |
| 13. Photomorphogenesis | 14. Photorespiration |
| 15. Photoperiodism | 16. Flavonoids |
| 17. Central vacuole | |

IV. 問答題 (12 分)

1. Mitochondria and chloroplasts are important organelles. Answer following questions.
 - (1) Compare and contrast the two organelles. In what ways are their structures similar and different?
 - (2) Please name the biological processes (or functions) occurring in these two organelles, respectively, in English.
 - (3) Organisms in which kingdoms contains both organelles?

試題必須隨卷繳回